

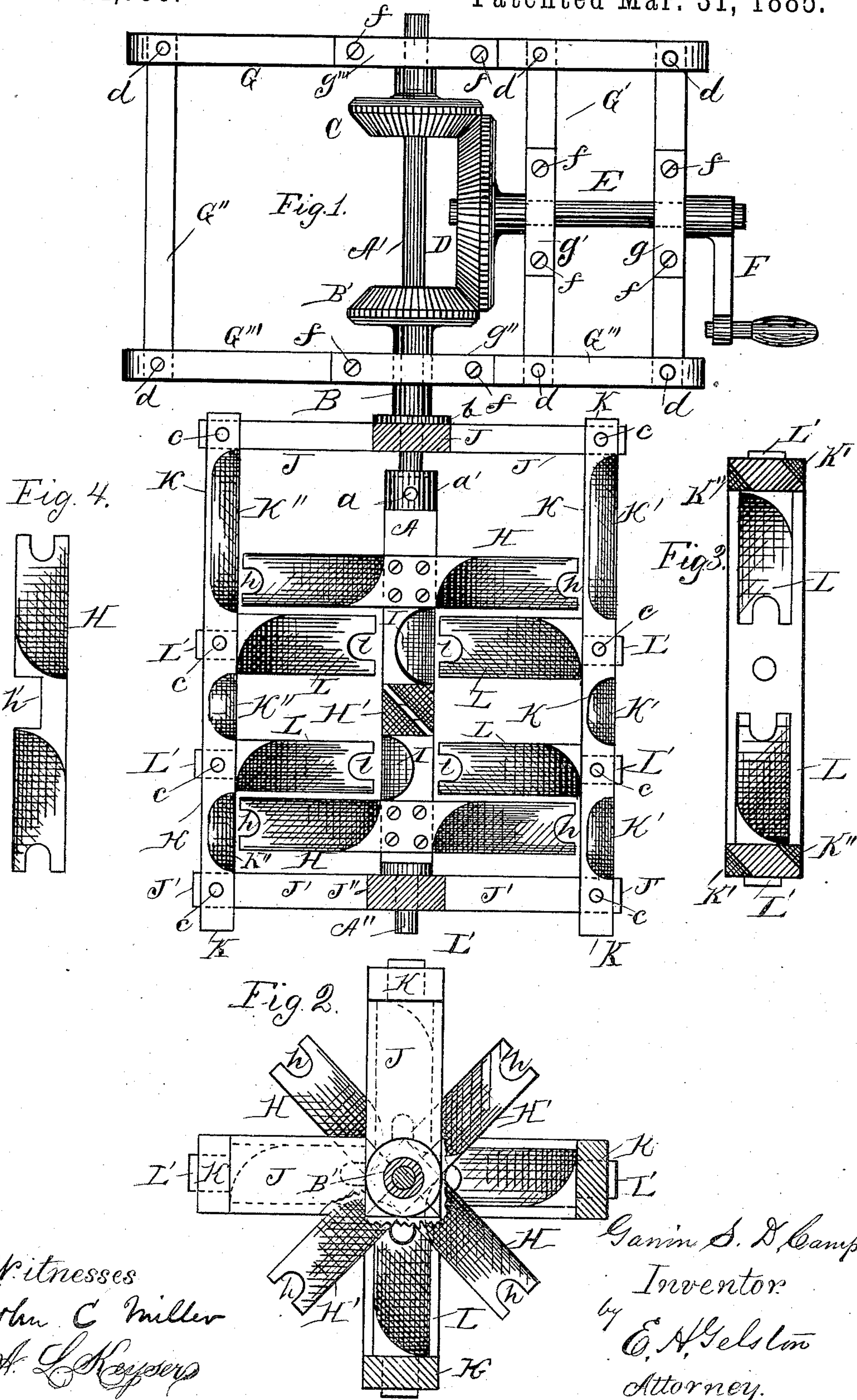
(No Model.)

G. S. D. CAMP.

CHURN.

No. 314,796.

Patented Mar. 31, 1885.



Witnesses  
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# UNITED STATES PATENT OFFICE.

GARVIN S. D. CAMP, OF RAY, ILLINOIS.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 314,796, dated March 31, 1885.

Application filed April 12, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, GARVIN S. D. CAMP, a citizen of the United States, residing at Ray, in the county of Schuyler and State of Illinois, have invented certain new and useful Improvements in Churns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of this improvement is a churn-dasher that will continuously move the cream away from and back toward the center of the churn and simultaneously produce a more thorough and efficient agitation of the cream than is otherwise practicable. These results are attained by the mechanism illustrated in the drawings herewith filed as part hereof, in which the same letters of reference denote the same parts in all the views.

Figure 1 is a side elevation of my improvement, with part of the dasher-frame cut away to better illustrate the construction and relative position of the parts. Fig. 2 is a sectional view as seen from the top, with parts of the dasher in different position from that shown in Fig. 1. Fig. 3 represents a section as seen from the top thereof. Fig. 4 is a view of one of the parts detached.

A is a rotating shaft secured, as shown at *a a'*, to the socket of a metal extension, *A'*, which passes through and moves freely in the frame-pieces J and metal sleeve B, integrally provided with a bevel-gear, *B'*, which, with a bevel-gear, C, rigidly secured to the upper end of the shaft *A'*, engages with the driving-gear D, secured to the shaft E, having bearings in the vertical frame-pieces *G'*, and to which motion is imparted by means of the crank F.

The gear-inclosing frame *G G' G'' G'''* is mortised and tenoned together, and additionally secured in its connections by the pins or screws *d*. The gear-inclosing frame is provided with detachable pieces *g g' g'' g'''*, affixed thereto by screws *f*, and which secure the

positions of the shafting *A' E* and the geared sleeve *B B'*, affixed to the transverse beams *J J* by screws or bolts passing through flange *b*, and which, with the vertical pieces *K K* and the lower transverse pieces, *J' J''*, form a frame which rotates around the central shaft, *A*, the lower end, *A''*, of which shaft is journaled in the frame-pieces *J' J''*.

Set into and rigidly secured to the central shaft, *A*, are a suitable number of transverse agitating-blades, *H H'*, which are cut away at inclinations, as shown, for a purpose hereinafter set forth and fully explained.

*L L* are similarly-formed agitating-blades mortised and tenoned to the outer frame-pieces, *K K*, as shown at *L'*, and additionally secured thereto by pins *c*. The ends of the agitating-blades are recessed, as shown at *h* and *l*, to allow the cream to pass in all directions through the dasher.

The shaft *A* is provided with a series of opposite concaved recesses, *I*, cut at an angle thereto for the purpose of giving the cream action away from the center of the churn.

The outer frame-pieces, *K K*, are provided with angled recesses *K'* outside and *K''* on the inside thereof, as additional means of giving action to and passage of the cream through the dasher.

By reason of the contrary or intersecting angles of the blades *H H'* and *L*, as shown in Fig. 1, and their motion in opposite directions, a very thorough circulation and efficient agitation of the cream will be produced, and a much more complete and rapid separation of the butter from the particles of the cream will result from their action as described than is otherwise attainable.

I am aware that several different churns have heretofore been invented having concentric rotating dasher-frames provided with counteracting agitating-blades, and possessing, respectively, different features of the construction and operation of the within-described mechanism, which I therefore do not broadly claim as new; but

What I claim, and desire to secure by Letters Patent, is—

The combination of the transverse diago-

nally-cut agitating-blades H H', having their ends recessed, as shown at h h, and the central rotating shaft, A, having diagonally-cut recesses I, intermediate of the blades H H',  
5 with the diagonally-cut agitating-blades L L, having their ends recessed, as shown at l l, secured to the outer frame. K K, having diagonally-cut recesses intermediate of the blades L L, the gear-supporting frame G G' G'' G''',

provided with detachable pieces g g' g'' g''', 10 and the driving-gear, as described.

In testimony whereof I affix my signature in presence of two witnesses.

GARVIN S. D. CAMP.

Witnesses:

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